Whom can you contact for additional information?

For more information on this regulation, please call your State or local air pollution control agency or the Regional Office where your State or territory resides.

Region	Telephone #	States covered
1	(617)565-3587	CT, ME, MA, NH, RI, VT
2	(212)637-4022	NJ, NY, Puerto Rico, Virgin Islands
3	(215)566-2190	DE, MD, PA, VA, WV, DC
4	(404)562-9127	AL, FL, GA, KY, MS, NC, SC, TN
5	(312)353-4366 (IN) (312)886-6031 (WI) (312)886-6082 (IL) (312)353-4775 (OH) (312)886-6068 (MI) (312)353-6960 (MN)	IL, IN, MI, MN, OH, WI
6	(214)665-7549	AR, LA, NM, OK, TX
7	(913)551-7097	IA, KS, MO, NE
8	(303)293-1886	CO, MT, ND, SD, UT, WV
9	(415)744-1145	AZ, CA, HI, NV, American Samoa, Guam
10	(206)553-1949	AK, ID, WA, OR

Information related to this regulation are available on the Internet at

"http://www.epa.gov/ttn/uatw"

Click on "EPA Rules and Implementation" and scroll to "Section 129 Rules for Solid Waste Combustion." If you have difficulty, contact your EPA Region at the number above.

The information in this pamphlet is intended for general reference only; it is not a full and complete statement fo the technical or legal requirements associated with the regulation. Consult the *Federal Register* for a full text of the regulation.

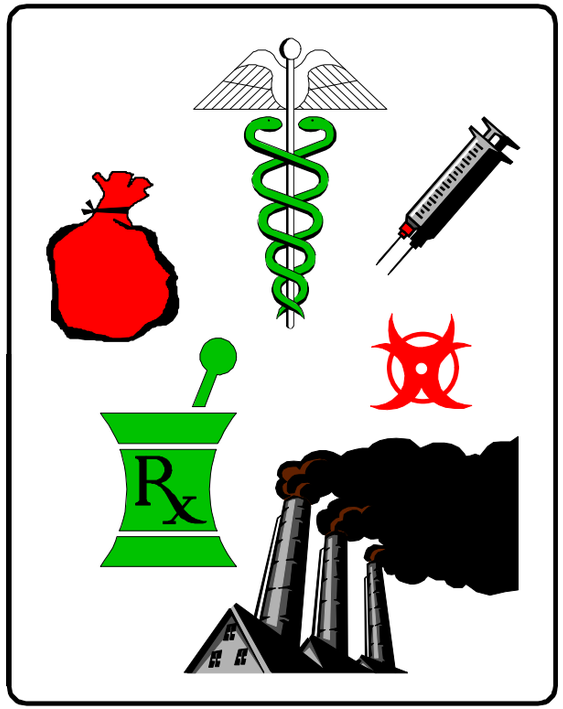
United States
Environmental Protection
Agency

September 1997

Office of Air Quality Planning and Standards

EPA

New Regulation Controlling Emissions From Hospital/ Medical/Infectious Waste Incinerators



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BACKGROUND

In September 1997, the U.S. Environmental Protection Agency (EPA) issued Emission Guidelines (EG) to control air emissions from existing hospital/medical/infectious waste incinerators (HMIWI). The EG, subpart Ce of 40 CFR part 60, appeared in the September 15, 1997 edition of the *Federal Register* [volume 62, beginning on page 48347]. Subpart Ce promulgates EG and compliance schedules for use by States in developing State regulations to control emissions from existing HMIWI built on or before June 20, 1996. Hospital/medical/infectious waste incinerators built after June 20, 1996 are not subject to the subpart Ce Guidelines; they are considered New Sources and are subject to subpart Ec New Source Performance Standards (NSPS). This pamphlet discusses the requirements of the EG for existing HMIWI.

Why is the EPA regulating HMIWI?

Sections 111 and 129 of the Clean Air Act (CAA) as amended in 1990, direct the EPA to develop EG for units combusting hospital, medical, and infectious waste. The EPA is regulating HMIWI to meet the requirements of the CAA. Consistent with Section 129, the EG establish numerical emission limits for particulate matter (PM), opacity, carbon monoxide (CO), dioxin/furan (CDD/CDF), hydrochloric acid (HCl), sulfur dioxide (SO_2), nitrogen oxides (NO_x), lead (Pb), cadmium (Cd), and mercury (Hg). These pollutants can have an adverse affect on both public health and welfare.

The EG apply to units whose primary purpose is the combustion of hospital waste and/or medical/infectious waste. There are approximately 2,400 existing HMIWI in the U.S. which are subject to the EG. The EPA estimates that full compliance with the EG will achieve 75 to 98 percent reductions in pollutant emissions.

What is an affected source?

Most sources that combust hospital waste and/or medical infectious waste are affected sources (with the exceptions identified below). The EG do not apply during periods when only pathological, low-level radioactive, and/or chemotherapeutic waste is burned. During these periods, records must be kept of the periods of time when only pathological, low-level radioactive, and chemotherapeutic wastes are burned. Pyrolysis units, incinerators permitted under Section 3005 of the Solid Waste Disposal Act, cement kilns, and municipal waste combustors subject to 40 CFR 60 subparts Cb, Ea, or Eb are not subject to the HMIWI EG. Devices that cofire hospital waste and/or medical/infectious waste with other fuels and combust less than 10 percent hospital waste and/or medical/infectious waste by weight (on a calendar quarter basis) are exempt from the HMIWI EG, but must notify the Administrator of an exemption claim and keep records of the fuels and wastes fired. Pathological, low-level radioactive, and chemotherapeutic waste are excluded from the 10 percent hospital and medical/infectious waste calculation.

How does the new Federal EPA regulation relate to State requirements?

If a State already has a rule for HMIWI, then that rule still applies but it may need to be amended. States are to develop State Plans containing regulations that are at least as protective as the EG within 1 year after promulgation of the EG. Some State and local agencies do require more stringent emission limits.

How does the new EPA regulation affect you?

The regulation affects sources combusting hospital waste and/or medical/infectious waste. The regulation requires:

- ✓ Emission limits
- ✓ Performance testing
- ✓ Ongoing parameter monitoring
- ✓ Inspections
- ✓ Operator training
- ✓ Waste management plans
- ✓ Reporting and recordkeeping
- ✓ Title V permit

These requirements are summarized in this pamphlet.

REGULATION

Compliance Schedule. State Plans are required to include one of the following two schedules: (1) full compliance with the State Plan within 1 year after EPA

approval of the State Plan; or (2) full compliance with the State Plan within 3 years after EPA approval of the State Plan, provided the State Plan includes measurable and enforceable incremental steps of progress that will be taken to comply with the State Plan. State Plans are to require compliance with the operator training and qualification and inspection guidelines within 1 year after the date of EPA approval of a State Plan. All existing HMIWI are required to comply within 5 years after the promulgation date. The timeline at the right illustrates the compliance schedule.

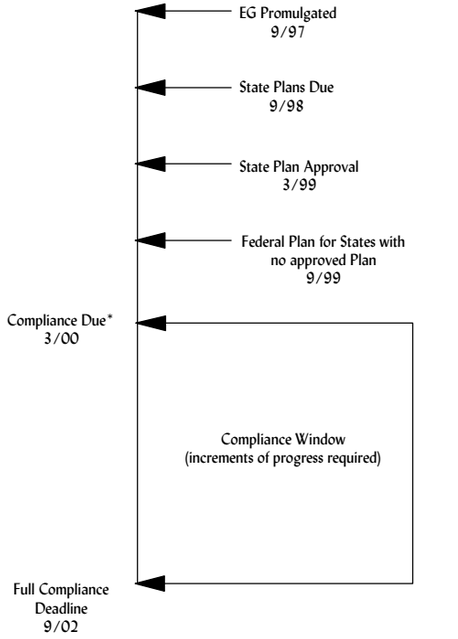
Emission Limits. The HMIWI source category is divided into three subcategories based on waste burning capacity: small (≤200 lb/hr), medium (>200 to 500 lb/hr), and large (>500 lb/hr). Separate emission limits apply to each HMIWI subcategory.

The EG contain optional (less stringent) emission limits for small "rural" HMIWI that: (1) are located more than 50 miles from the nearest Standard Metropolitan Statistical Area (SMSA), and (2) burn less than 2,000 pounds of waste per week.

The table at the right presents the emission limits contained in the EG for existing HMIWI in each subcategory. The control basis for the emission limits (i.e., what control technology could be used to achieve the emission limits) is as follows: (1) good combustion for small rural HMIWI, (2) good combustion and a low efficiency wet scrubber (or dry scrubber with carbon) for small HMIWI, (3) good combustion and a moderate efficiency wet scrubber (or dry scrubber with carbon) for medium HMIWI, and (4) good combustion and a high efficiency wet scrubber (or dry scrubber with carbon) for large HMIWI. Although the emission limits are based on the performance of the controls mentioned above, the EG do not require the use any specific control technology. The decision how to comply with the emission limits is left to the facility owner/operator. In addition to the emission limits, the EG establish a 10 percent opacity limit for all existing HMIWI.

Testing, Monitoring, and Inspections. To determine compliance with the emission limits, the EG require initial stack testing for PM, CO, CDD/CDF, HCl, Pb, Cd, Hg, and opacity for all existing HMIWI except for small rural units. Facilities operating small rural HMIWI are required to conduct initial compliance testing for PM, CO, CDD/CDF, Hg, and opacity. Compliance tests are to be performed using EPA Reference Methods 5 (PM), 10 or 10B (CO), 23 (CDD/CDF), 26 (HCl), 29 (Pb, Cd, and Hg), and 9 (opacity).

Except for small rural HMIWI, emissions of PM, CO, and HCl must be determined by an annual stack test. However, if an HMIWI passes all three annual compliance tests in a 3-year period, then the HMIWI may forgo testing for the next 2 years. If any subsequent test indicates noncompliance, then annual testing would again be needed until three annual tests in a row indicate compliance. The EG require facilities operating small rural HMIWI to conduct annual equipment inspections instead of annual stack tests.



*Compliance with operator training and qualifications and inspection guidelines is required, regardless of whether the State Plan allows beyond 1 year for compliance.

The EG require that facilities monitor HMIWI and APCD operating parameters. Operating parameter limits are established during the initial performance test. The HMIWI operating parameters to be monitored include charge rate, secondary chamber temperature, and bypass stack temperature. Facilities operating HMIWI equipped with dry scrubbers are to monitor CDD/CDF and Hg sorbent (e.g., carbon) flow rate, HCl sorbent (e.g., lime) flow rate, and fabric filter inlet temperature. Facilities operating HMIWI equipped with wet scrubbers are to monitor pressure drop across the system (or horsepower or amperage), liquor flow rate and pH, and the flue gas temperature.

Operator Training. The EG require training and qualification of HMIWI operators. Each HMIWI operator must pass an HMIWI operator training course which is either State-approved or meets requirements specified in the EG. Also, each facility is to develop and update annually site-specific information regarding HMIWI operation. Each employee involved with the operation of the HMIWI is required to review the operating information developed for the HMIWI.

Waste Management Plan. The guidelines require facilities to develop a waste management plan that identifies the feasibility and approach to separate certain components of the medical/infectious waste stream and hospital waste stream for recycling/reuse.

Reporting and Recordkeeping. The EG require owners of existing HMIWI to maintain thorough records documenting the results of the initial and annual performance tests, continuous monitoring of site-specific operating parameters, initial and annual inspections, compliance with the operator training and qualification requirements, and the waste management plan. These records must be kept on file for at least 5 years.

The EG require owners or operators to submit the results of the initial performance test and all subsequent performance tests or inspections. Additionally, reports on emission rates or operating parameters that have not been obtained or that exceed applicable limits must be submitted on a semi-annual basis. If no exceedences occur during a semi-annual period, the owner of the designated facility is required to submit an annual report stating that no exceedences occurred. All reports must be signed by the facilities manager.

Emission Limits for Existing HMIWI (corrected to 7 percent O_2)

Pollutant	Small rural	Small	Medium	Large
PM, gr/dscf	0.086	0.05	0.03	0.015
CO, ppmdv	40	40	40	40
CDD/CDF, ng/dscm	800 total 15 TEQ[a]	125 total 2.3 TEQ[a]	125 total 2.3 TEQ[a]	125 total 2.3 TEQ[a]
HCl, ppmdv	3,100	100 or 93%[b]	100 or 93%[b]	100 or 93%[b]
SO_2, ppmdv	55	55	55	55
NO_x, ppmdv	250	250	250	250
Pb, mg/dscm	10	1.2 or 70%[b]	1.2 or 70%[b]	1.2 or 70%[b]
Cd, mg/dscm	4	0.16 or 65%[b]	0.16 or 65%[b]	0.16 or 65%[b]
Hg, mg/dscm	7.5	0.55 or 85%[b]	0.55 or 85%[b]	0.55 or 85%[b]

[a] TEQ is toxic equivalent quantity determined by using international toxic equivalency factors
[b] Percent reduction measured across control device